

### III. AMENDMENTS TO THE CLAIMS

Please find herein below a complete listing of the claims of the application, including their status as effected by the present amendment:

#### Listing of claims:

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1. *(currently amended)* A variable bandwidth transmission device comprising:
- a) a first input for receiving a message bearing signal characterized by a bandwidth that is variable;
  - b) a second input for receiving a bandwidth control signal characterized by a frequency, the frequency being selectively-variable as a function of the bandwidth of the message bearing signal;
  - c) a filtering stage for processing the message bearing signal and the bandwidth control signal to generate an output signal characterized by a bandwidth, said filtering stage being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the output signal.
2. *(currently amended)* A variable bandwidth transmission device as defined in claim 1, further comprising:
- a) a bandwidth control signal source connected to said second input for supplying the bandwidth control signal;
  - ~~b) the message bearing signal characterized by a bandwidth;~~
  - ~~[[c)]]~~ b) ~~[[a]]~~ control logic coupled to said bandwidth control signal source, for causing said bandwidth control signal source to change the frequency of the bandwidth control signal on the basis of a change of the bandwidth of the message bearing signal.
3. *(currently amended)* A variable bandwidth transmission device as defined in claim 1, wherein said filtering stage is ~~a spectral shaping~~ characterized by a

Nyquist bandwidth, said ~~spectral-shaping-filtering~~ stage being responsive to a change of frequency of the bandwidth control signal to alter the Nyquist bandwidth of said ~~spectral-shaping-filtering~~ stage.

4. *(currently amended)* A variable bandwidth transmission device as defined in claim 3, wherein said ~~spectral-shaping-filtering~~ stage includes a first spectral shaping filter and a second spectral shaping filter.
5. *(original)* A variable bandwidth transmission device as defined in claim 1, wherein said filtering stage includes band pass filters.
6. *(original)* A variable bandwidth transmission device as defined in claim 5, wherein said filtering stage includes a first mixer having two inputs and an output, the output of said first mixer being coupled to an input of a first band pass filter, one input of said first mixer being coupled to said first input for receiving the message bearing signal, the other input of said first mixer receiving a signal at a first frequency.
7. *(currently amended)* A variable bandwidth transmission device as defined in claim 6, wherein said filtering stage includes a second mixer having two inputs and an output, one input of said second mixer being coupled to an output of said first band pass filter, one input the other input of said second mixer receiving a signal at a second frequency, the output of said second mixer being coupled to an input of a second band pass filter.
8. *(currently amended)* A variable bandwidth transmission device as defined in claim 7, wherein said filtering stage includes a third mixer having two inputs and an output, one input of said third mixer being coupled to an output of said second band pass filter, one input the other input of said mixer receiving the signal at the first frequency, the output of said second mixer generating the output signal characterized by a bandwidth.

9. *(currently amended)* A variable bandwidth transmission device as defined in claim 7, wherein said filtering stage includes a DA converter including a first input for receiving the output of said second band pass filter, a second input for receiving the signal at the first frequency and an output for releasing the output signal characterized by a bandwidth, the output signal characterized by a bandwidth being an analog signal.
10. *(original)* A variable bandwidth transmission device as defined in claim 9, wherein said DA converter is characterized by a sampling frequency, the first frequency defining the sampling frequency of said DA converter.
11. *(original)* A variable bandwidth transmission device as defined in claim 7, including a local oscillator manager including a local oscillator generating a local oscillator signal, said local oscillator manager being operative to generate from the local oscillator signal and from the bandwidth control signal the signal at the first frequency and the signal at the second frequency.
12. *(original)* A variable bandwidth transmission device as defined in claim 11, wherein said local oscillator manager includes a mixer having two inputs for receiving the bandwidth control signal and the local oscillator signal, respectively and two outputs, coupled respectively to a first band pass filter and to a second band pass filter.
13. *(original)* A variable bandwidth transmission device as defined in claim 12, wherein the first band pass filter outputs a signal that is the sum of the frequency of the local oscillator signal and the frequency of the bandwidth control signal.
14. *(original)* A variable bandwidth transmission device as defined in claim 12, wherein said local oscillator manager includes a frequency divider receiving

the signal output by said first band pass filter, said frequency divider outputting the signal at the first frequency.

15. *(original)* A variable bandwidth transmission device as defined in claim 14, wherein said frequency divider divides the frequency of the signal output by said first band pass filter by two.
16. *(original)* A variable bandwidth transmission device as defined in claim 13, wherein the second band pass filter outputs the signal at the second frequency that is the difference between the frequency of the local oscillator signal and the frequency of the bandwidth control signal.
17. *(currently amended)* A variable bandwidth transmission device as defined in ~~claim 10~~ claim 11, wherein said local oscillator manager includes a single side band up converter.
18. *(currently amended)* A variable bandwidth transmission device as defined in claim 17, wherein said oscillator manager includes a pair of ~~[[said]]~~ single side band up converters, each single side band up converter receiving as input the local oscillator signal and the bandwidth control signal, one of the single side band up converters releasing a signal at a frequency that is the sum of the frequency of the local oscillator signal and the frequency of the bandwidth control signal and the other single side band up converter releasing a signal at a frequency that is the difference between the frequency of the local oscillator signal and the frequency of the bandwidth control signal.
19. *(cancelled)*
20. *(currently amended)* A variable bandwidth transmission device as defined in ~~claim 19~~ claim 1, wherein the frequency of the bandwidth control signal is related to ~~[[a]]~~ the bandwidth of the message bearing signal by a function  $f(X)$

where "X" is the bandwidth of the message bearing signal, said function being selected [[in]] from the group consisting of

- a)  $f(X) = A + X$ , where A is a constant;
- b)  $f(x) = B * X$ , where B is a constant;
- c)  $f(X) = C * (D + X)$ , where C and D are constants.

21. *(currently amended)* A variable bandwidth transmission device comprising:

- a) a first input, ~~said input for~~ receiving a message bearing signal characterized by a bandwidth that is variable;
- b) a second input for receiving a bandwidth control signal characterized by a frequency, the frequency being selectively variable as a function of the bandwidth of the message bearing signal;
- c) means for processing the message bearing signal and the bandwidth control signal to generate an output signal characterized by a bandwidth, [[the]] said ~~means for processing the message bearing~~ being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the output signal.

22. *(currently amended)* A local oscillator manager, comprising:

- a) a first input for receiving a bandwidth control signal characterized by a frequency that is variable;
- b) ~~a second input for receiving a local oscillator generating a local oscillator signal~~ characterized by a frequency;
- c) a first single side band up converter for receiving the ~~clock signal~~ bandwidth control signal and the local oscillator signal and for releasing a signal that is the sum of the frequency of the local oscillator signal and the frequency of the bandwidth control signal;
- d) a second single side band up converter for receiving the bandwidth control signal and the local oscillator signal and for releasing a signal that is the difference of the frequency of the local oscillator signal and the frequency of the bandwidth control signal.

23. *(currently amended)* A variable bandwidth reception device comprising:
- a) a first input for receiving a message bearing signal characterized by a bandwidth that is variable;
  - b) a second input for receiving a bandwidth control signal characterized by a frequency, the frequency being ~~selectively~~ variable as a function of the bandwidth of the message bearing signal;
  - c) a filtering stage for processing the message bearing signal and the bandwidth control signal to generate an output signal characterized by a bandwidth, said filtering stage being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the output signal.
24. *(currently amended)* A variable bandwidth reception device as defined in ~~claim 24~~ claim 23, wherein said filtering stage is a spectral shaping filtering stage that includes a first spectral shaping filter and a second spectral shaping filter.
25. *(currently amended)* A variable bandwidth reception device as defined in ~~claim 24~~ claim 23, wherein said filtering stage includes band pass filters.
26. *(original)* A variable bandwidth reception device as defined in claim 25, wherein said filtering stage includes a first mixer having two inputs and an output, the output of said first mixer being coupled to an input of a first band pass filter, one input of said first mixer being coupled to said first input for receiving the message bearing signal, the other input of said first mixer receiving a signal at a first frequency.
27. *(currently amended)* A variable bandwidth reception device as defined in claim 26, wherein said filtering stage includes a second mixer having two inputs and an output, one input of said second mixer being coupled to an

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output of said first band pass filter, ~~one input~~ the other input of said second mixer receiving a signal at a second frequency, the output of said second mixer being coupled to an input of a second band pass filter.

28. *(currently amended)* A variable bandwidth reception device as defined in claim 27, wherein said filtering stage includes a third mixer having two inputs and an output, one input of said third mixer being coupled to an output of said second band pass filter, ~~one input~~ the other input of said mixer receiving the signal at the first frequency, the output of said second mixer generating the output signal characterized by a bandwidth.
29. *(original)* A variable bandwidth reception device as defined in claim 27, wherein said filtering stage includes an AD converter including a first input for receiving the output of said second band pass filter, a second input for receiving the signal at the first frequency and an output for releasing the output signal characterized by a bandwidth, the output signal characterized by a bandwidth being a digital signal.
30. *(original)* A variable bandwidth reception device as defined in claim 29, wherein said AD converter is characterized by a sampling frequency, the first frequency defining the sampling frequency of said AD converter.
31. *(currently amended)* A variable bandwidth reception device as defined in claim 27, including a local oscillator manager including a local oscillator generating a local oscillator signal characterized by a frequency, said local oscillator manager being operative to generate from the local oscillator signal and from the bandwidth control signal the signal at the first frequency and the signal at the second frequency.

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32. *(original)* A variable bandwidth reception device as defined in claim 31, wherein said local oscillator manager includes a single side band up converter.
33. *(currently amended)* A variable bandwidth reception device as defined in claim 32, wherein said local oscillator manager includes a pair of single side band up converters, each converter receiving as input the local oscillator signal and the bandwidth control signal, one of the single side band up converters releasing a signal at a frequency that is the sum of the frequency of the local oscillator signal and the frequency of the bandwidth control signal and the other single side band up converter releasing a signal at a frequency that is the difference between the frequency of the local oscillator signal and the frequency of the bandwidth control signal.
34. *(cancelled)*
35. *(currently amended)* A variable bandwidth transmission device as defined in ~~claim 34~~ claim 23, wherein the frequency of the bandwidth control signal is related to [[a]] the bandwidth of the message bearing signal by a function  $f(X)$  where "X" is the bandwidth of the message bearing signal, said function being selected [[in]] from the group consisting of
- a)  $f(X) = A + X$ , where A is a constant;
  - b)  $f(X) = B * X$ , where B is a constant;
  - c)  $f(X) = C * (D + X)$ , where C and D are constants.
36. *(currently amended)* A communication system comprising:
- a) a ~~transmitter~~ variable bandwidth transmission device as defined in claim 1 in RF communication with a ~~receiver~~ variable bandwidth reception device as defined in ~~claim 23~~, said variable bandwidth reception device comprising:



- i) a first input for receiving the output signal of the variable bandwidth transmission device;
- ii) a second input for receiving a bandwidth control signal characterized by a frequency, the frequency being variable as a function of the bandwidth of the output signal of the variable bandwidth transmission device;
- iii) a filtering stage for processing the output signal of the variable bandwidth transmission device and the bandwidth control signal to generate an output signal characterized by a bandwidth, said filtering stage being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the generated output signal.

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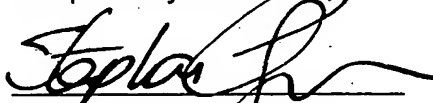
37. (new) A variable bandwidth transmission device as defined in claim 1, further comprising a bandwidth control signal source connected to said second input for supplying the bandwidth control signal, said bandwidth control signal source being adapted to detect a change in the bandwidth of the message bearing signal and to change the frequency of the bandwidth control signal on the basis of the detected change.
38. (new) A variable bandwidth transmission device as defined in claim 1, further comprising a bandwidth control signal source connected to said second input for supplying the bandwidth control signal, said bandwidth control signal source being adapted to receive an indication of a change in the bandwidth of the message bearing signal and to change the frequency of the bandwidth control signal on the basis of the received indication.

#### IV. CONCLUSION

Applicant is of the view that claims 1-18, 20-33 and 35-38 are in allowable form. Early allowance of the Application is earnestly solicited.

If the claims of the application are not considered to be in full condition for allowance, for any reason, Applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,



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